**INFORMED CONSENT TO PARTICIPATE IN A RESEARCH STUDY**

**Full Study Title:** Real-time static gesture detection using Machine Learning

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**INFORMED CONSENT**

You are being asked to consider participating in a research study. A research study is a way of gathering information on treatment, procedure or program or to answer a question about something that is not well understood. This form explains the purpose of this research study, provides information about the study procedures, possible risks and benefits, and the rights of participants.

Please read this form carefully and ask any questions you may have. The researcher will explain this form and all information concerning the study to you verbally. Please ask the researcher to clarify anything you do not understand or would like to know more about. Make sure all your questions are answered to your satisfaction before deciding whether to participate in this research study.

Participating in this study is your choice (voluntary). You have the right to choose not to participate, and you have the right to withdraw from the study and stop your participation at any time.

**INTRODUCTION**

I have developed an application which converts an image into text using machine learning for American Sign language. American sign language is used by the deaf community to convey a message to each other and sometime deaf student parents need to learn sign language to communicate with the child. Before I explain my research, I would like to explain the current method used to teach them. In the current teaching method teacher performs sign and he or she will show alphabet related to that sign, so this method is very time-consuming and time constraint. I have developed an application which helps a deaf student, or their parents will be a benefit once my research will be complete.

My main goal is to help a deaf student, or their parent to learn the first step toward sign alphabets and numbers by themselves. In my research, I have created my own dataset which consists of A to Z alphabets and 0 to 9 digits images of sign language.

I need four participants who will help me to test my application and measure the performance of my application. I will provide a sample sign image to the participant who needs to imitate that image in front of my application. I need a participant who does not have knowledge about American sign language because who has the knowledge, they will perform very accurate and I could not measure the performance of my application. When I run my application, it will start webcam on that computer and display rectangle box on the screen. A participant performs sign gesture into that box which will convert that sign gesture into a text as a result. I will capture a screenshot and this screenshot I will store in image format as a testing result.

You are being asked to consider participating in this study because you will help me to test my application. For the testing of my application I need a person who does not have knowledge about sign language. Participant needs to perform a different sign gesture in front of my application so I can measure performance of my application.

**WHAT WILL HAPPEN DURING THIS STUDY?**

I have developed an application which is a stand-alone application. To run this application, I need these components: computer and webcam. Data collection and testing method is explained below

1] I run my application which will start webcam of that computer and display one rectangle box.

2] I will provide sample sign gesture images to the participant to perform the same gesture into that box, so my application displays text as a result of that gesture.

3] Once the result display I will take a result screenshot which I stored in image format.

4] I will compare the result images and real gesture images in my defence presentation.

# WHAT ARE THE RISKS OR HARMS OF PARTICIPATING IN THIS STUDY?

As I stated in my research, I have developed an application which I need to test with a different user. The testing process is not that much time consuming only it takes 25 to 30 minutes per participant and it does not continue the testing process such as if the participant would like to test only a few gestures and remaining will be tested on another day then It also works. I can test my application based on participant availability. I provide to sample gesture images so participant need imitate a picture to test my application. There is no major risk in my research.

**WHAT ARE THE POTENTIAL BENEFITS?**

As a participant, you will be given the chance to influence future research project base on your own education and information needs. Once this technology implemented successfully then it will help to the deaf individual or their family member to learn independently about American sign language. Also, an innovation in technology will have a great social impact.

**ARE STUDY PARTICIPANTS PAID TO PARTICIPATE IN THIS STUDY?**

You will not be paid for participation in this study, it is voluntary.

**HOW WILL MY INFORMATION BE KEPT CONFIDENTIAL?**

All information that is collected, used or disclosed for this study will be handled in a confidential manner. Anything that we find out about you that could identify you will not be published or told to anyone else unless we get your permission. The information obtained will be kept on the Laurentian Drive. All data will be deleted after finishing my research. Right of participant to have his/her personal information held confidential, and any limitations to protecting participants’ confidentiality. For focus groups, a statement that confidentiality cannot be guaranteed if participants choose to speak outside the context of the research.

**INFORMATION ABOUT THE STUDY RESULTS**

You have the right to be informed of the results of this study once the study is complete. If you would like to know about the results of this study by email. If Yes, please write your email \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. I will keep the result screenshot image in Laurentian Drive until my thesis defense after that I will delete from my Laurentian Drive.

**WHAT ARE THE RIGHTS OF PARTICIPANTS IN A RESEARCH STUDY?**

You have the right to receive all information that could help you decide about participating in this study. You also have the right to ask questions about this study and your rights as a research participant, and to have them answered to your satisfaction before you make any decision. You also have the right to ask questions and to receive answers throughout this study. Participate has right to withdraw or refuse at any time without penalty or consequence, with procedures to allow them to exercise their right.

For captive populations (e.g. Students, employees, patients, prisoners) state that their future will not in any way be affected by participating or not participating in the study since these are students.

If you have questions about your rights as a research participant or any ethical issues related to this study that you wish to discuss with someone not directly involved with the study, you may call **Research Ethics Officer, Laurentian University Research Office,** telephone: 705-675-1151 ext 3681, 2436 or toll free at 1-800-461-4030 or email [ethics@laurentian.ca](mailto:ethics@laurentian.ca).

**DOCUMENTATION OF INFORMED CONSENT**

You will be given a copy of this informed consent form after it has been signed and dated by you and the study staff.

Full Study Title: Real-time static gesture detection using Machine Learning

Name of Participant: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Participant/Substitute decision-maker

By signing this form, I confirm that:

* This research study has been fully explained to me and all my questions answered to my satisfaction
* I understand the requirements of participating in this research study
* I have been informed of the risks and benefits, if any, of participating in this research study
* I have been informed of any alternatives to participating in this research study
* I have been informed of the rights of research participants
* I have read each page of this form
* I have agreed, or agree to allow the person I am responsible for, to participate in this research study

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Name of participant/ Signature Date

(print)